General information for Shipboard Movement Tracking (SMT)

Topics

- Background
- Components
- Certifications/Approvals
- Schedule

Background

SMT

- Provides an automated capability to track and report the movement of personnel, supplies, and equipment during routine loading and offloading operations, contingencies, and exercises.

- Uses existing systems and hardware with a shipboard wireless network.

Phases

- Phase 1: **Ship Class Surveys and Prototype Planning**
  - Conduct drawing studies and physical ship surveys to determine optimal hardware locations and installation techniques for SMT gear aboard each of the following classes of amphibious ships: LHA, LHD, LPD, LPD-17, LSD 41, and LSD 49.
  - Began Dec 02. LPD-17 will be complete in 04.

Phases (cont.)

- Phase 2: **SMT Proof of Concept**
  - Conduct four Proof of Concept events prior to a decision on full SMT implementation.
  - Conduct detailed communication study and provide recommended solutions/diagrams to support the automatic transfer of AIT data from:
    - Ship to Ship
    - Ship to Shore
  - Began in Oct 03 with Communications Test #1
    - Successful data transfer between two “ships” in lab at St. Juliens Creek Naval Depot.

Phases (cont.)

- Phase 3: **Full SMT Implementation**
  - Submit requirement to SPAWAR PMS-161/165 once demos are completed.

Benefits

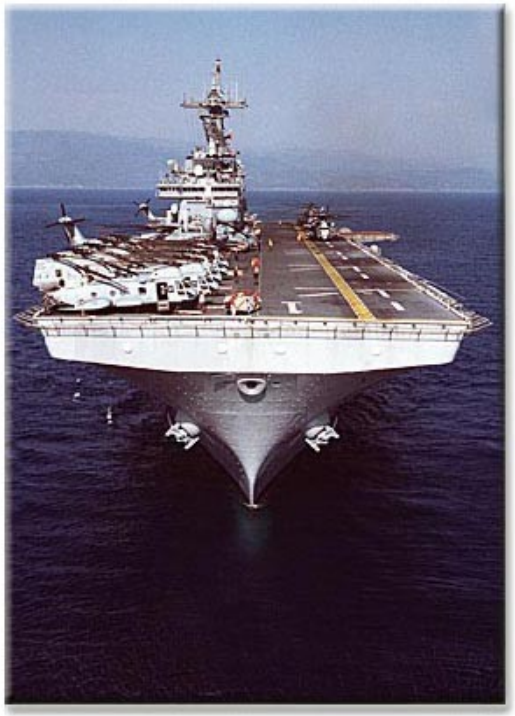
- Wireless connections to the ISNS for Marine Corps and Navy personnel
- Enables future capabilities – mechanics accessing supply systems and tech manuals, Navy supply real-time inventory, electronic triage, faster NEO receiving, etc…
- Reduces manual manifest process
- Increases situational awareness in ESG/MEU staffs
- Enables precision logistics support – know exactly what is ashore.

Ship Survey's

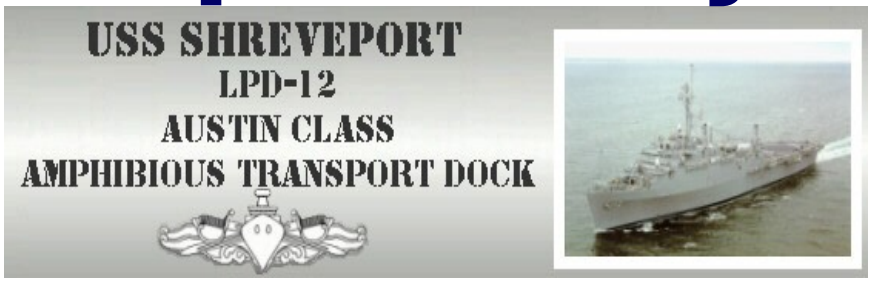
USS WASP (LHD 1)

Ship requires 10 Access Points (AP)

- Some wiring for power (Ship's power)
- Will provide coverage for:
  - Hangar (2 AP)
  - Top of vehicle ramp to flight deck (1 AP)
  - Upper and lower vehicle stowage (2 AP)
  - Office spaces (5 AP)



Ship Survey's



USS Shreveport (LPD-12)

Ship requires five Access Points (AP)

- Some wiring for power (Ship's power)
- Will provide coverage for:
  - Upper and Lower vehicle stowage (3 AP)
  - Helo Hangar (2 AP)
- Office spaces receive coverage from AP's

Ship Survey's

USS Whidbey Island (LSD-41)

Ship requires four Access Points

- Some wiring for power
- Will provide coverage for:
  - Turntable (2 AP)
  - Troop Office Spaces (2 AP)

Ship Survey's

USS Oak Hill (LSD - 51)

Ship requires four Access Points

- Some wiring for power
- Will provide coverage for:
  - Turntable (2 AP)
  - Troop Office Spaces (2 AP)

Progress to date

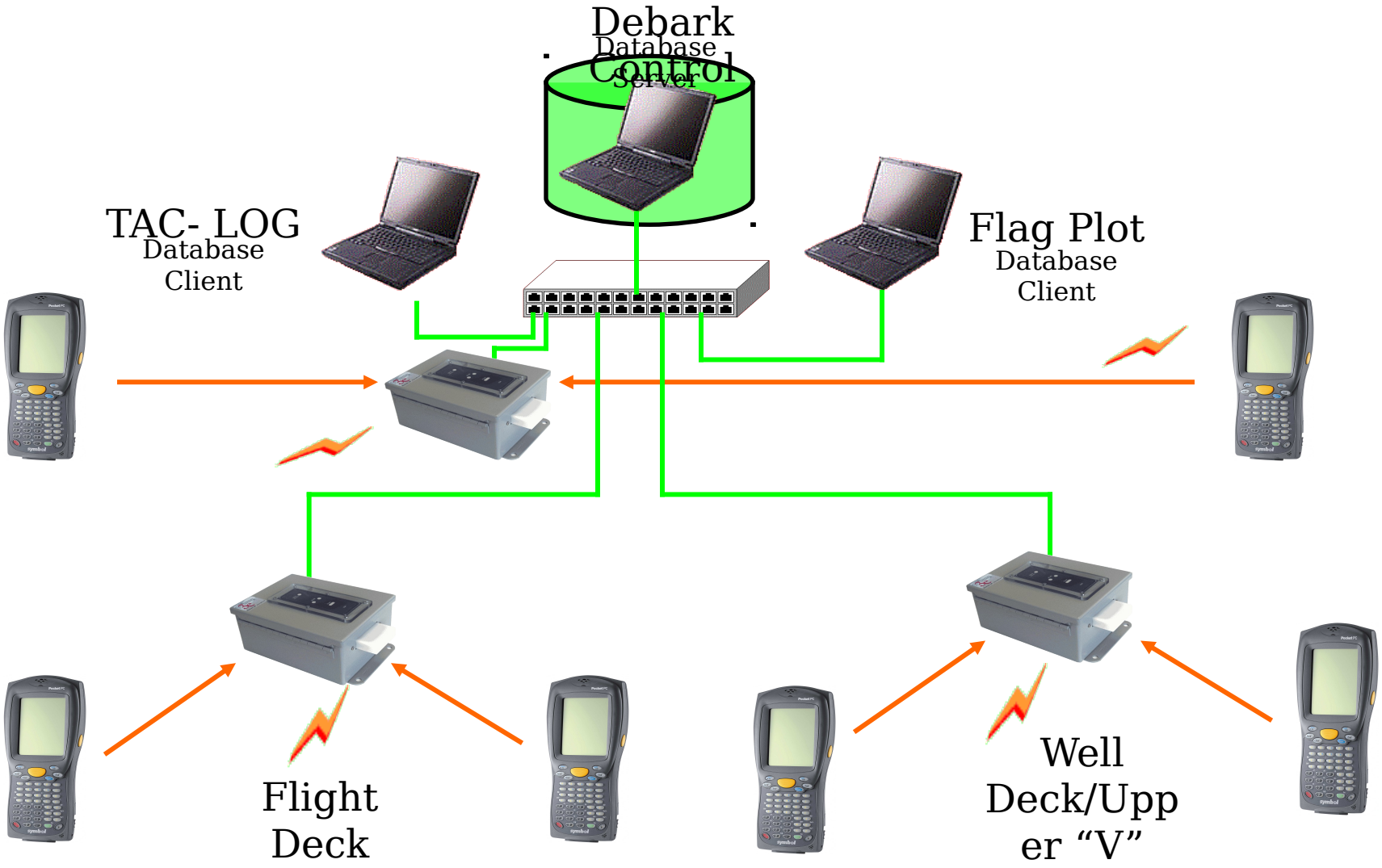
- LHA Site Survey – USS Nassau (LHA 4) – results similar to LHD.
- Coordinating LPD-17 Site Survey
- LOGAIS v7.0, AALPS, and ICODES certified to operate on ISNS
- Access Point certified to operate on ISNS
- TEMPALT packages developed and approved for each ship in KEARSARGE ESG

Components

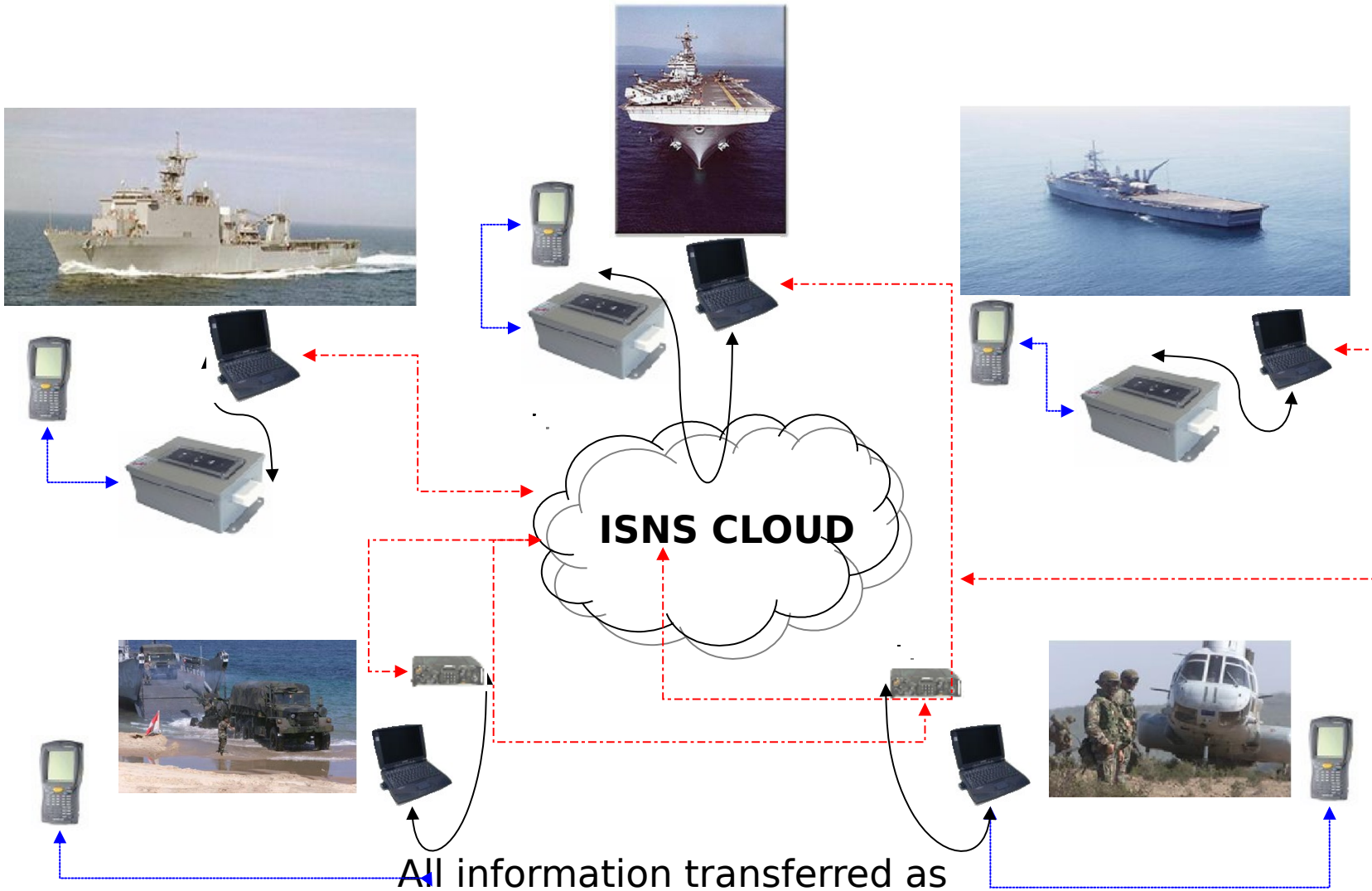
Requirements

- MDSS II
- Wireless LAN
- AIT

Ship Configuration



ESG Configuration



All information transferred as data

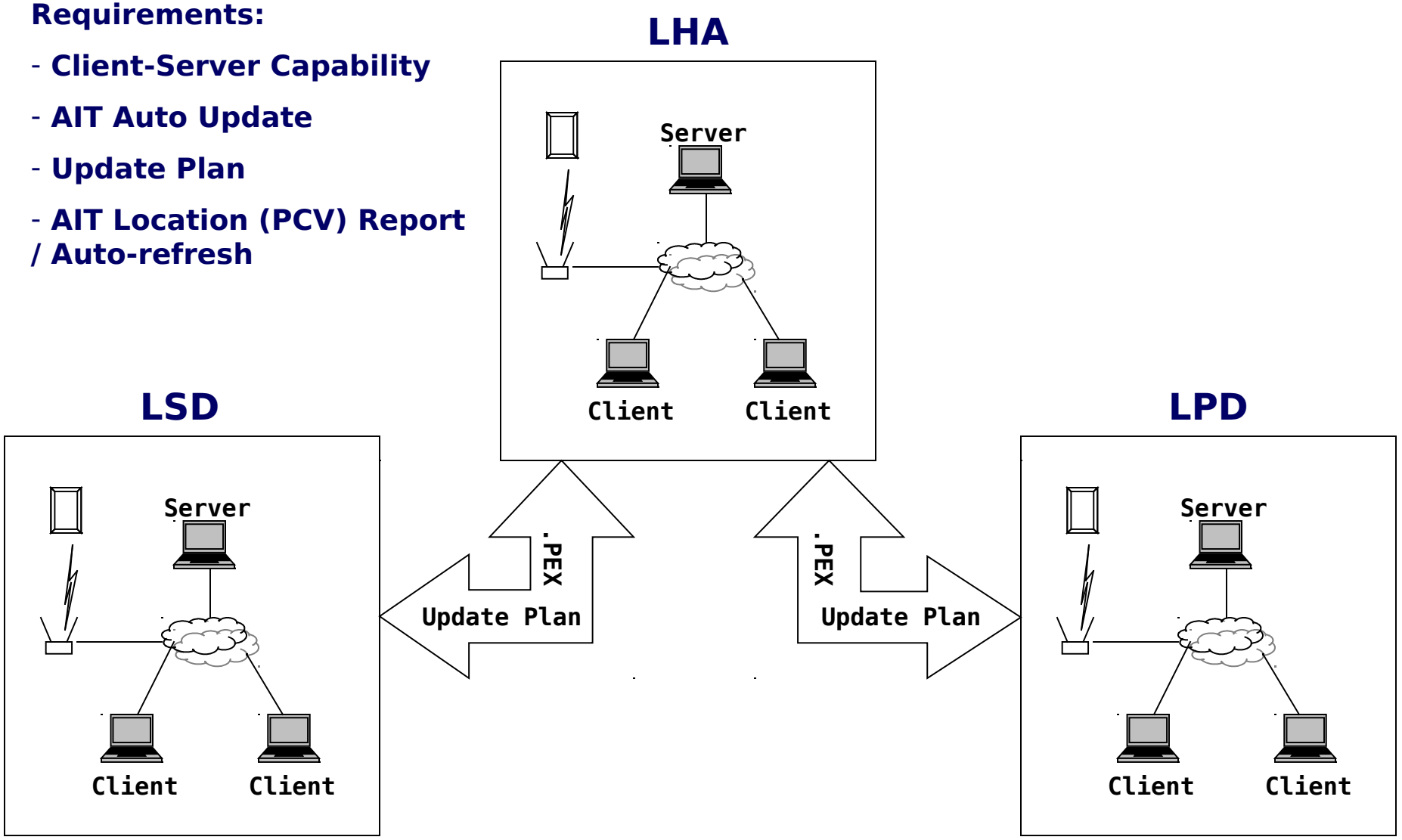
MDSS II

- Automated information system capable of supporting rapid military deployment
- Provides various echelons of the MAGTF the ability to:
  - Provide unit level database capable of supporting rapid deployment
  - Build and maintain a database containing force and deployment data
  - Retrieve information in near real-time, in the form of reports and ad hoc queries
  - Utilize Automatic Identification Technologies (AIT) to collect data and track equipment
  - Interface with external databases

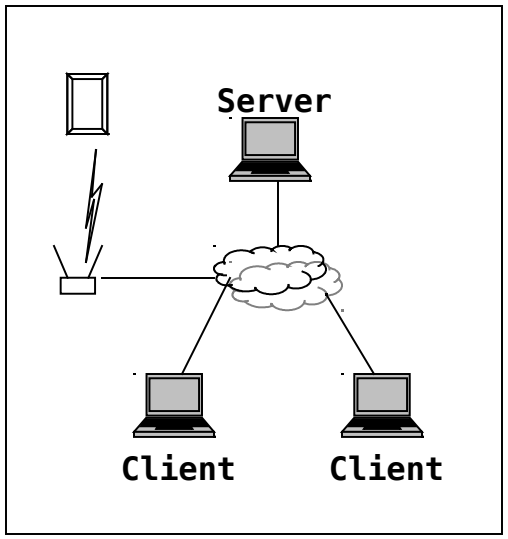
MDSS II v. 7.0

Requirements:

- **Client-Server Capability**
- **AIT Auto Update**
- **Update Plan**
- **AIT Location (PCV) Report / Auto-refresh**



MDSS II v. 7.0

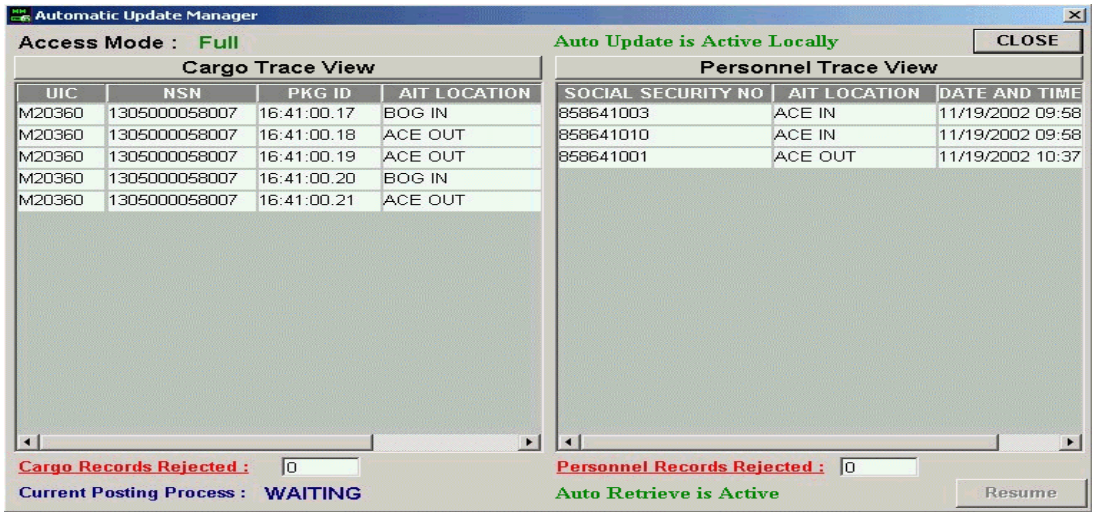


Client – Server Capability

- One user with “Full User Access” at a time.
  - Edit capability
- Other users will have “Read Only Access”.
  - View capability
- In order to view the plan, users will log into the server’s database.

AIT Auto Update

- User with “Full User Access” makes changes to the plan. User is also running AIT equipment with AIT Auto Update.
- AIT Auto Update will automatically update UDL and roster with AIT Location. No need to view the New Cargo table.


Automatic Update Manager
Access Mode : Full
Auto Update is Active Locally
CLOSE
Cargo Trace View
UIC | NSN | PKG ID | AIT LOCATION
M20360 | 1305000058007 | 16:41:00.17 | BOG IN
M20360 | 1305000058007 | 16:41:00.18 | ACE OUT
M20360 | 1305000058007 | 16:41:00.19 | ACE OUT
M20360 | 1305000058007 | 16:41:00.20 | BOG IN
M20360 | 1305000058007 | 16:41:00.21 | ACE OUT
Personnel Trace View
SOCIAL SECURITY NO | AIT LOCATION | DATE AND TIME
858641003 | ACE IN | 11/19/2002 09:58
858641010 | ACE IN | 11/19/2002 09:58
858641001 | ACE OUT | 11/19/2002 10:37
Cargo Records Rejected : 0
Personnel Records Rejected : 0
Current Posting Process : WAITING
Auto Retrieve is Active
Resume

MDSS II v. 7.0

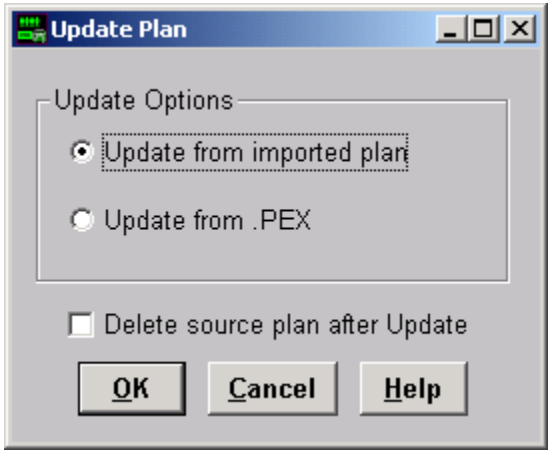
Update Plan Capability

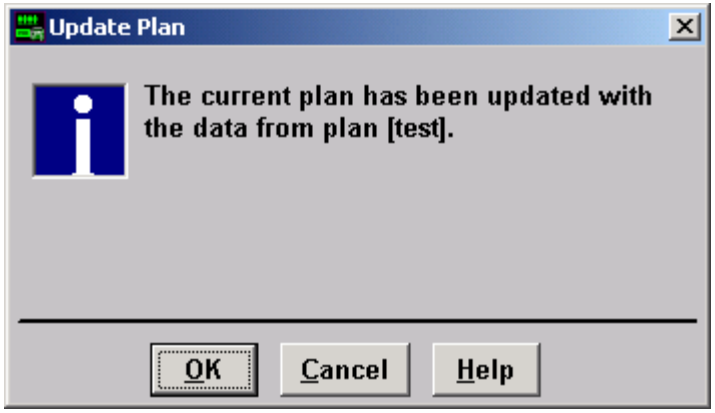
- Update plan conducted by user with “Full User Access”.

-All new records are inserted into the active plan.

- All modified records are updated with new information.

- In order to process correctly, users must insure that the computer’s clock is updated with the correct time.

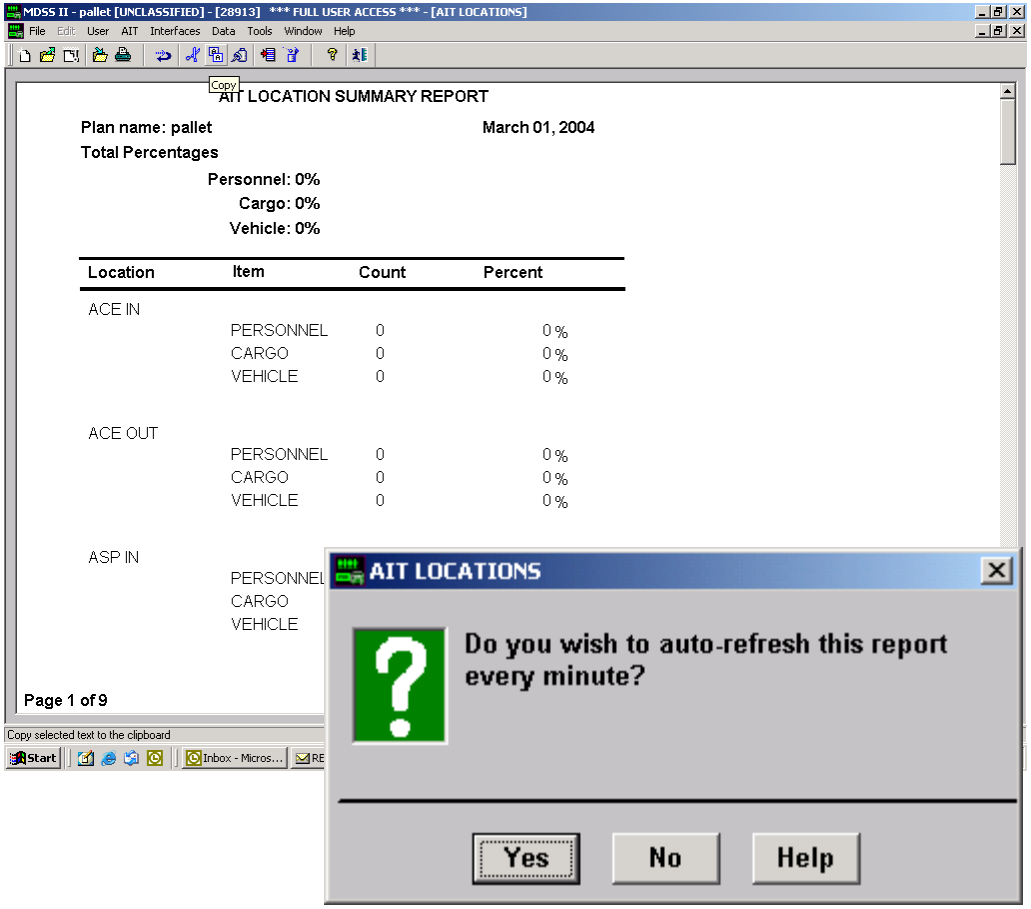




MDSS II v. 7.0

AIT Location (PCV) Report with Auto refresh

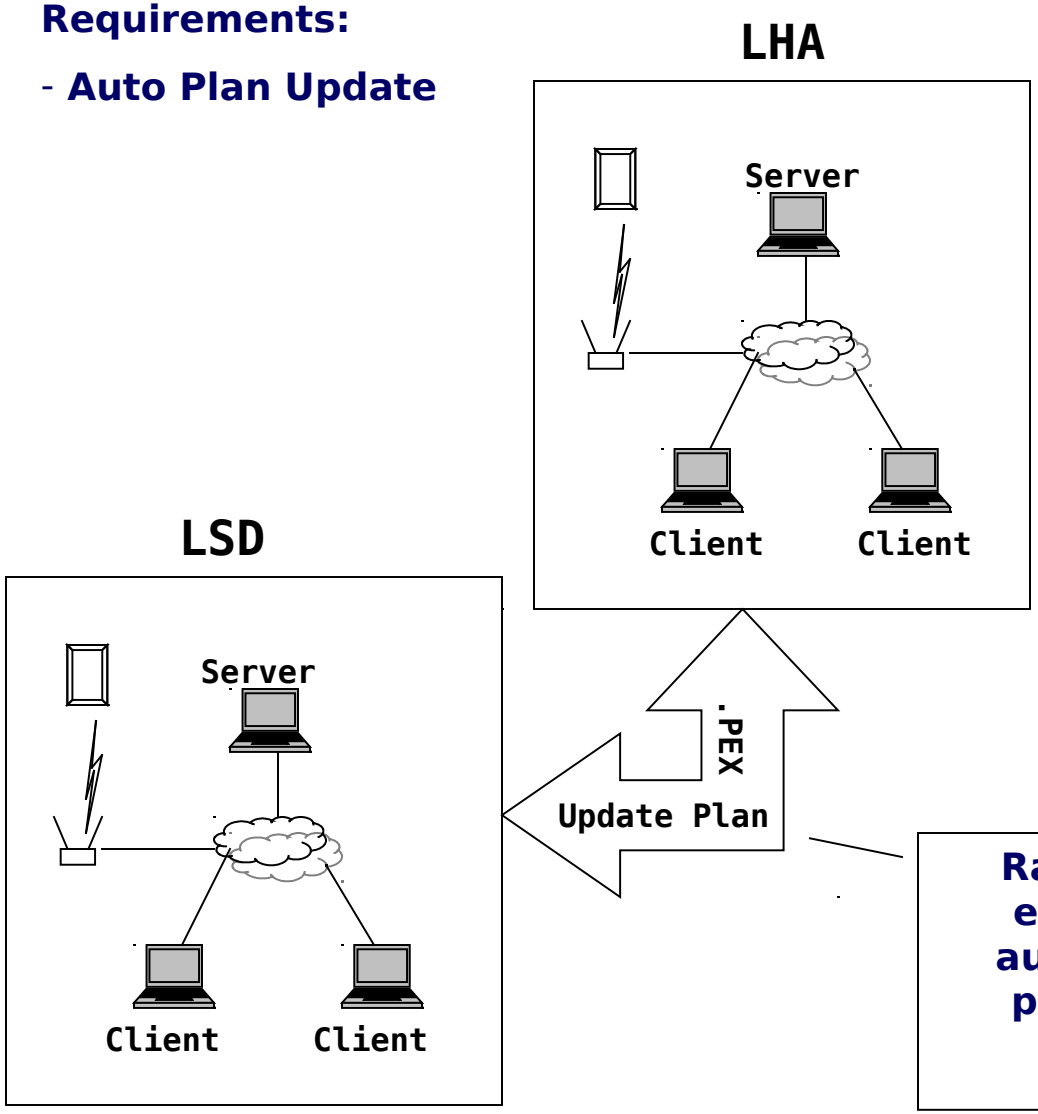
- User with “Read Only Access” uses AIT Location Reports to watch cargo and personnel movement.

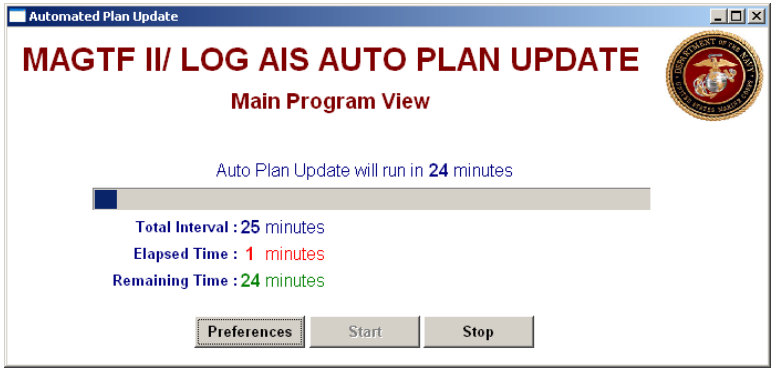


MDSS II v. 7.1

Requirements:

- **Auto Plan Update**





Rather than manually creating plan exports (.pex), MAGTF LOGAIS will automatically create the export and perform a plan update at intervals specified by the user.

WLAN Hardware

Hardware

Dual Mode 3eTi 521N Wireless Gateway

- IEEE 802.11b
- IrDA
- Conventionally powered (standard 115v AC)
- Splash-proof NEMA approved Hoffman enclosure
- Shipboard Environment Qualified

AIT

Automatic Identification Technology (AIT)

- Pocket PC 2002
- Pico Image Scanner – will scan linear and all 2-D barcodes including data matrics.
- 802.11b RFDC-WiFi
- FIPS 140-2 Encryption Software
- Qtr VGA color touch screen w/ full alpha numeric keypad.

Certifications/Approvals

Certifications/Approvals

- WLAN Waiver Approved – COMNAVFLT MSG 3 MAR 04
- ISNS Certification – SSIL – 04-0006
- TEMPALTS Approved by NAVSEA

WLAN Hardware

- **Successfully completed NAVSEA set of shipboard environmental qualification tests prior to installation approval**
  - **MIL-S-901D Lightweight Shock**
  - **MIL-STD-167 Vibration**
  - **MIL-STD-451E EMI Emissions and Susceptibility**
  - **MIL-STD-810F Humidity**
  - **FCC Part 15, Subpart B**

Navy Certification & Approval

CINCLANFLT & SPAWAR control connections to shipboard LANs

- **Requires Afloat Network Compatibility Testing**
- **Successfully completed in December ’01**

3e-521N Wireless Gateway approved for connection to Afloat Network on DDG 83

- **SPAWAR SSIL-02-0347**

Certification & Approval

DD 1494 in process

- Approval granted for 3e-521N and PCMCIA RF LAN Cards
- NAVEMSCEN circulating to Host Nations

HERO & HERF Certification

- “Hazards of Electromagnetic Radiation to Ordnance (HERO), Personnel (HERP), and Fuel (HERF) system certification for utilizing 3eTi wireless series gateways and wireless PCMCIA LAN cards onboard Arleigh Burke class ships”
- 10 ft separation from susceptible ordnance, devices and materials

Schedule

Training

- Training in Norfolk for personnel assigned to the ESG (TBD).
- Training in Camp Lejeune for MEU personnel (June – Aug ’04).
- Will conduct separate sessions for Communications and Embark personnel
- Training will be conducted by Project Office personnel.

Installations

- Installation for Kearsarge ESG complete (June ’04).
- Ship visit requests coordinated via SURFLANT
- Installations performed by SPAWAR Contractor Support- Global Services Corps.

Proof of Concept Events

- Will conduct Proof of Concept with Emissions Testing during 26 MEU/KEARSARGE ESG workups
- Event #1 – Database updates – Review equipment/personnel (Late June).
- Event #2 – Comm tests 2 & 3 (Late June).
- Event #3 – TCAT (25-29 Aug ’04).
- Event #4 – PMINT (15-24 Nov ’04).
- Project Team will retrain personnel and evaluate results of each event
- Results will be published on PM T&DS website as well as Naval Message traffic.

Points of Contact

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- SMT
  - Mike Escher, 540.907.6320, mescher@caci.com
- TC-AIMS II / AALPS / ICODES
  - Tony Brill, 703.432.0267, brilltw@mcsc.usmc.mil